
Strengthening Innovation in Europe's Regions: Strategies for resilient, inclusive and sustainable growth

{SWD(2017) 264 final}
1. A MODERN ECONOMY AND A FAIR TRANSITION FOR EU REGIONS

Europe is experiencing a period of momentous change. Globalisation, automation, decarbonisation, emerging and digital technologies: all have an impact on jobs, industrial sectors, business models, the economy and the society as a whole. It is indispensable to help Europeans adapt to these profound changes and to help the EU economy to become more resilient. In the Reflection Paper on Harnessing Globalisation\(^1\), the Commission highlighted the opportunities and challenges that Europe's citizens and regions are facing. This means that we need to anticipate and manage the modernisation of existing economic and societal structures, bearing in mind that today, more than ever, local issues have gone global and global issues have become local. To this end, Europe needs a long-term strategy, involving action at all levels, which triggers a fundamental shift in technology, economics and finance.

The EU has a crucial role to play in supporting all regions and Member States to activate their potential for innovation, competitiveness and sustainable jobs and growth. This is at the core of the various initiatives already undertaken, on the regulatory side\(^2\) as well as through the Investment Plan to create a stable pipeline of projects linked to the key EU priorities. Moreover, in recent years the Commission has called on national and regional authorities to develop smart specialisation strategies for research and innovation\(^3\). The aim was to encourage all European regions to identify their specific competitive advantages, as a basis for prioritising research and innovation investment under cohesion policy in 2014-2020. Subsequently, the European Parliament, the Council of the European Union and the Committee of the Regions have highlighted the need to further build on this approach to raise the innovation potential of all regions\(^4\).

Given the need to work jointly together at all levels, from local to European, to respond to these challenges and help Europe thrive in the modern world\(^5\), this Communication, and its accompanying Staff Working Document, take the smart specialisation approach one step further and tackle the following main challenges:

- Boosting the innovation and competitiveness potential of European regions, as a basis for a sustainable growth model;
- Increasing interregional cooperation, which is a key element in globalised economies;
- Strengthening the focus on less developed and industrial transition regions;
- Improving and building on joint work across EU policies and programmes supporting innovation.

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\(^2\) 10 Priorities of the Juncker's Commission.
\(^3\) COM(2010) 553 final.
\(^4\) Council Conclusions of 10 June 2016 on "A more research and innovation friendly, smart and simple Cohesion Policy and the European Structural and Investment Funds more generally", European Parliament resolution of 14 January 2014 on smart specialisation: networking excellence for a sound Cohesion Policy (2013/2094(INI)), European Parliament resolution of 13 September 2016 on Cohesion Policy and Research and Innovation Strategies for Smart Specialisation (RIS3) (2015/2278(INI)), The Committee of the Regions opinion of 22 March 2017 on "Smart Specialisation Strategies (RIS3): impact for regions and inter-regional cooperation".

\(^5\) From the foreword to the publication "Industry in Europe" (February 2017) of the President of the European Commission, Jean-Claude Juncker.
In this context, a range of focused pilot actions are put forward, which will facilitate developing experience and a broader way of looking at the economic development and growth of European regions. The ultimate goal is to enable all Europe's regions to build on smart specialisation to fully unlock their potential for technological change, digitisation decarbonisation and industrial modernisation.

2. SMART SPECIALISATION: REGIONAL PACTS FOR INNOVATION, GROWTH AND JOBS

The Smart specialisation approach was integrated into the reformed cohesion policy for 2014-2020, which was designed to maximise the positive impact on growth and jobs.

Smart specialisation strategies are about enabling regions to turn their needs, strengths and competitive advantages into marketable goods and services. They aim to prioritise public research and innovation investments through a bottom-up approach for the economic transformation of regions, building on regional competitive advantages and facilitating market opportunities in new inter-regional and European value chains. They help regions to anticipate, plan and accompany their process of economic modernisation.

Member States and regions have developed over 120 smart specialisation strategies through partnership, multi-level governance and bottom-up approach establishing priorities for research and innovation investments for the 2014-2020 period.

Throughout this period more than EUR 40 billion (and more than EUR 65 billion including national co-financing) allocated to regions through the European Regional Development Fund will fund these priorities. Overall, support to research, innovation and entrepreneurship is expected to help 15 000 enterprises to introduce new products to market, to support 140 000 start-ups and to create 350 000 new jobs by the end of the programming period. In addition, EUR 1.8 billion has been programmed under the European Social Fund for strengthening human capital in research, technological development and innovation. National, regional and local priorities have been identified and mapped in the process of designing these strategies.

Examples of priorities in smart specialisation strategies:

- **In Emilia-Romagna, Italy**, the regional partnership has identified health and well-being as a priority and is bringing different key enabling technologies together with biomedicine to develop customised precision grafting and implants.
- **In Extremadura, Spain**, farmers and researchers are addressing the lack of capacity to meet market demand during peak season by participating together in a European network which develops high tech farming.
- **In Lapland, Finland**, smart specialisation contributed to develop the region's leading position in exploiting and commercialising Arctic natural resources while delivering sustainable development and job creation.

To ensure the effectiveness of regional policy investments, smart specialisation strategies need to be in place ('ex-ante conditionality') before receiving the financial support of the

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6 As planned in the national or regional operational programmes for 2014-2020: https://cohesiondata.ec.europa.eu/themes.
7 EYE@RIS3 database: http://s3platform.jrc.ec.europa.eu/eye-ris3
European Regional Development Fund on research and innovation in the 2014-2020 period.

Moreover, to support the process, the Commission set up a Smart Specialisation Platform, which, since 2011, advises Member States and regional authorities on how to design and implement their smart specialisation strategies. It facilitates mutual learning, data gathering, analysis, and networking opportunities for around 170 EU regions and 18 EU national governments.

These strategies often involve traditional sectors such as agri-food, forestry, tourism and textiles that evolve through incremental innovation. But they also include sectors linked to the deployment of key enabling technologies, service innovation and resource efficient-solutions in energy, transport, environment, the circular economy, nanotechnology and health that can create entirely new markets and industries. The strategies are built on a collaborative process that facilitates demand-led innovation and collective solutions.

These strategies are a powerful tool that helps translating horizontal policies and instruments at the EU and national level to the regional and local level creating links within broader innovation ecosystems and encouraging social innovation. They contribute to making the European economy more competitive and resilient to globalisation, and to ensuring that it generates the resources necessary to provide for a fair distribution of its benefits.

3. KEY CHALLENGES AND NEXT STEPS: BOOSTING INNOVATION-LED GROWTH

While evaluations foreseen under cohesion policy regulations will further help to identify the strengths and weaknesses of the current approach, it is clear that smart specialisation strategies have already made a significant contribution in terms of reorienting the European Union's cohesion policy, Europe's competitive edge relies on its capacity to promote new growth models at regional level, by targeting investments in innovative sectors with significant growth potential and high added value.

To achieve this, four challenges have been identified and need to be addressed:

- Further reform of research and innovation systems within regions;
- Increasing cooperation in innovation investment across regions;
- Leveraging research and innovation in less developed and industrial transition regions;
- Harnessing synergies and complementarities between EU policies and instruments.

3.1. Further reform of research and innovation systems within regions

As evidenced in the course of the European Semester process, the reform of research and innovation systems has a clear regional dimension which should embrace three...
crosscutting elements: research and innovation, industrial transformation, and finance and investment\textsuperscript{11}.

As a prerequisite for cohesion policy investment, smart specialisation has contributed to putting in place reforms in about half of the Member States\textsuperscript{12} and helped to address many research and innovation challenges. However, in certain cases, the unbalanced participation of representatives from various sectors including research, industry, higher education, public administration and civil society undermined broader reform efforts. A major focus of the strategies was therefore to break down silos between various administrative bodies and improve multi-level governance.

Reform efforts need to be intensified in order to create an enabling business environment and an efficient and transparent public administration to foster innovation and increasing dynamism in product and services markets and improving conditions for the creation and growth of start-ups\textsuperscript{13}. At the same time, these efforts should also encourage investment in skills and human capital\textsuperscript{14} in line with the Blueprints for Sectoral Cooperation on Skills\textsuperscript{15}, the Renewed EU Agenda for Higher Education\textsuperscript{16} as well as making better use of clusters and support SMEs policy. The Digital Skills and Jobs Coalition\textsuperscript{17} can play an important role in this process, helping the labour market to respond to digital transformation across the EU. This will be complemented by the dialogue on cluster policy excellence\textsuperscript{18}.

- The Commission will step up its efforts to put at the disposal of national and regional authorities, upon demand and in close cooperation with the concerned Member States and regions, the available EU support to facilitate the design, implementation and evaluation of policy reforms in research and innovation.
- The \textbf{Smart Specialisation Platform} continues to provide support to implement national and regional smart specialisation strategies. In addition, on demand, the \textbf{Horizon 2020 Policy Support Facility} will help Member States address obstacles in their research and innovation systems, including those related to the effective implementation of smart specialisation strategies.
- Furthermore, the \textbf{Structural Reform Support Service}, which operates upon request from the Member States, is available to help design and implement reforms that can improve the business environment, the labour market, as well as equip people with the right skills, education and training for today’s and tomorrow’s job markets\textsuperscript{19}.

To maximise the contribution of structural reforms to innovation, Member States are invited to reinforce the dialogue with all concerned stakeholders in the course of the European Semester process, including regions and local authorities. They should also support the implementation of priorities identified in smart specialisation strategies by increasing the quality and openness of research and the higher education system, ensuring

\begin{itemize}
  \item European Semester Thematic Fiche "Research and Innovation"
  \item Study “Support of ESI Funds to the implementation of the Country Specific Recommendations and to structural reforms in Member States”, 2017, European Commission.
  \item COM(2016) 733 final.
  \item COM(2017) 90 final.
  \item \url{http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7969}
  \item COM(2017) 247 final.
  \item \url{https://ec.europa.eu/digital-single-market/en/digital-skills-jobs-coalition}
  \item This dialogue will take place during the forthcoming European Cluster Policy Forum discussions.
\end{itemize}
competitive funding of research, strengthening knowledge transfer, linking vocational education and training to innovation systems and contributing to skills intelligence and skills matching in line with the New Skills Agenda\textsuperscript{20}.

\textbf{3.2. Increasing cooperation in innovation investment across regions}

Smart specialisation strategies have been used to drive a more effective innovation policy and push interregional cooperation in new value chains across borders. Linking research and innovation actors with industrial stakeholders helps to exploit complementarities in the development of products and process design. This will help build and reshape EU-wide value-chains by encouraging the synergy of investment between the private and public sector. The creation of stable pipelines of projects matching the strategic priorities identified should be developed by the relevant stakeholders together.

It is thus necessary to develop further the inter-regional and cross-border dimension by creating interregional investment opportunities which will facilitate scaling up regional and local innovation, as already kick-started in the context of the Communication on Clean Energy for all Europeans\textsuperscript{21}.

Stronger strategic inter-regional cooperation and sustainable linkages between regional ecosystems along smart specialisation priority areas can increase competitiveness and resilience, as illustrated by the Vanguard initiative.

The **Vanguard Initiative for new growth through smart specialisation** is driven by a political commitment by regions to use their smart specialisation strategies to boost new growth through bottom-up entrepreneurial innovation and industrial renewal in European priority areas. Thirty regions are now part of this initiative.

The Vanguard Initiative seeks to lead by example in developing interregional cooperation and multi-level governance to help regional clusters and eco-systems to focus on priority areas for transforming and emerging industries. Vanguard regions seek to exploit complementarities identified in smart specialisation strategies in order to develop world-class clusters and cluster networks, in particular through pilots and large-scale demonstrators.

This led the Commission to set up, with support from its Smart Specialisation Platform, **thematic platforms** on industrial modernisation, energy and agri-food to help regions to work together on their smart specialisation priorities, involving policy makers, researchers, business, clusters and civil society\textsuperscript{22}. These platforms provide a unique opportunity for policymakers at EU, national and regional level to pool experience to address these priorities in a regional context, where change is felt most.

**Thematic Smart Specialisation Platforms** bring together 100 regions working together in 17 interregional partnerships to date on common topics to foster innovation, value chain linkages and develop joint investments, with support from the Commission services:

- The **industrial modernisation platform** includes partnerships on advanced manufacturing, sustainable manufacturing, bioeconomy, 3D printing, medical technologies, innovative textiles, industry 4.0, sports and new nano-enabled products.

\textsuperscript{20} COM(2016) 381 final.
\textsuperscript{21} COM(2016) 860 final.
\textsuperscript{22} See the accompanying Staff Working Document for details on the regional partnerships launched.
The energy platform includes partnerships on bioenergy, marine renewable energy, smart grids, solar energy and sustainable buildings.

The agri-food platform includes partnerships on high-tech farming, traceability, bioeconomy and agri-food and smart electronic systems.

Further efforts are necessary to integrate other large European initiatives with these platforms and their regional partnerships, to facilitate the commercialisation and scale-up of inter-regional innovation projects and to incentivise joint business investment. The thematic Smart Specialisation Platforms should also be used to deepen cooperation between less developed regions, regions in industrial transition and more advanced ones, to facilitate their industrial and technological transition.

The Commission will put in place, in close partnership with the relevant Member States, a pilot action by the end of 2017 to work in close collaboration with five to ten thematic partnerships representing policy-makers, researchers, businesses and other innovation actors. Support for development of the pilot action will be provided by the European Regional Development Fund.

The aim will be to test approaches to commercialise and scale-up inter-regional innovation projects that have the potential to encourage the development of European value chains. These partnerships could include advanced manufacturing and industry 4.0, the bioeconomy, big data, energy, low carbon transition, clean and connected mobility, health, cybersecurity, water and innovation in traditional sectors. This work will build on the close working relationship developed between the Commission services and the partnerships developed in the context of the thematic Smart Specialisation Platforms, and on relevant EU innovation initiatives.

Member States and regions with support from the Commission should build on clusters and the European Institute of Innovation and Technology's Knowledge and Innovation Communities (KICs), to develop investment pipelines for projects which are bankable for support from financial instruments, in particular through the European Fund for Strategic Investments, helping to attract private investment by backing up innovative projects that may need risk-coverage.

Projects which are small in nature can be bundled together in investment platforms, bringing together different EU funds in the most efficient way and involving the private sector where appropriate.

3.3. Leveraging research and innovation in less developed and industrial transition regions

Less developed regions still face obstacles linked to fragmentation and sustainability of research and innovation infrastructures and often experience difficulties in building institutional and legal environments conducive to innovation. While smart specialisation is relevant to all regions, less developed regions require specific attention with regard to human capital, skills development and a more inclusive innovation process. Innovation actors in less developed regions are often not very well connected to the wider research and innovation community and global value chains.

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23 E.g. the Public Private Partnerships supported under Horizon 2020 on bioeconomy, advanced manufacturing, and new energy technologies.
Regions in industrial transition face specific challenges, notably where this is associated with a lack of an appropriate skills-base, high unit labour costs and deindustrialisation. These regions may be unable to attract sufficient extra-regional investment to encourage innovation through the development of new supply chains, as well as sufficient commercial research structures and firms that could form the basis for broad industrial modernisation. There may be additional weaknesses in the capacity to exploit the funding opportunities offered by the resources available under European research and innovation and industrial competitiveness programmes, while they do not receive the level of support available to less developed regions under cohesion policy.

Continuous support for mutual learning is therefore essential. The Commission has provided support through access to independent experts, such as the TAIEX Peer 2 Peer and the Smart Specialisation Platform. This has allowed regions to adopt best practices, benchmark their structures against world-class standards, map the diversity of research and innovation capacities and complementarities in EU regions, and address their weaknesses.

Investment in human capital and skills development, for example in the ICT sector, supporting business creation, e-justice and e-governance, is provided via the European Social Fund in line with the New Skills Agenda. The European Social Fund also supports less developed regions in modernising their administration with a view to reforms, better regulation and good governance.

The need to spread excellence and widen participation has also been supported through Horizon 2020 Teaming, Twinning, European Research Area chairs and COST actions and the "Stairway to Excellence" project. Moreover, the Lagging Regions project provides targeted support under cohesion policy to less developed regions to implement smart specialisation through capacity-building measures, administrative reform and strengthened monitoring and evaluation.

Under its Lagging Regions project, the European Commission and World Bank experts, together with Polish national and local authorities, have been working over the past year on identifying solutions to boost economic development in the low-income regions of Podkarpackie and Świętokrzyskie, in Eastern Poland. Actions include the transfer of knowledge from academia to local business, for example in the aerospace industry in Podkarpackie, upgrading the regional environment for businesses, and improving the skills of the local labour force.

The European Institute of Innovation and Technology through its Regional Innovation Scheme helps further to broaden participation. Finally, the development of a pan-

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25 Horizon 2020 and COSME - Europe’s programme for small and medium-sized enterprises.  
27 [http://s3platform.jrc.ec.europa.eu](http://s3platform.jrc.ec.europa.eu/)  
28 Around 1% of the Horizon 2020 budget is earmarked for this support to less research intensive countries - [https://ec.europa.eu/research/regions/index.cfm?pg=widening](https://ec.europa.eu/research/regions/index.cfm?pg=widening). COST supports networks of researchers with an emphasis on researchers from less research intensive countries.  
European network of Digital Innovation Hubs\(^{32}\) and other research and innovation infrastructures will help SMEs manage their digital transformation.

Targeted policy measures can help to address the specific needs of these regions and to successfully implement their smart specialisation strategies, with a particular focus on mutual learning and sharing of good practices in innovation policy implementation, governance and monitoring.

By the end of 2017 and in close partnership with the relevant Member States, the Commission will put in place a **pilot action** involving a limited number of test regions expressing their interest to work on the basis of their respective smart specialisation strategies in order to promote broad-based innovation to address the challenges of the **industrial transition**. The action will seek to facilitate the combined use of existing EU instruments and programmes managed by the Commission together with the resources available from cohesion policy, with the aim of accelerating the innovation uptake, removing investment barriers and facilitating reskilling and preparing for industrial and societal change. Support for development of the pilot action will be provided by the European Regional Development Fund with targeted advisory support from the European Observatory for Clusters and Industrial Change.

Member States, with support from the Commission, should better address the needs of less developed regions by reinforcing the focus on broad-based and open innovation, new collaborative governance, new interregional partnerships, development of capacities for absorbing new technologies, connecting the local economy with world-class research, and widening participation in global innovation networks.

### 3.4. Harnessing synergies and complementarities between EU policies and instruments

Currently, a substantial number of regional, national and European policy programmes and instruments exist to encourage innovation, growth and jobs or promote interregional cooperation\(^{33}\). A better linkage of these policies and instruments across different governance levels is needed to increase their impact in delivering key European priorities. There is therefore a need to fully exploit synergies and develop complementarities between EU funds for research and innovation, cohesion policy and industrial competitiveness measures to deliver essential investment. Smart specialisation provides a strategic framework to develop these complementarities\(^{34}\).

To achieve this, the Commission already brought forward a broad range of measures in the context of the proposals for the Multiannual Financial Framework for 2014-2020\(^{35}\).

The European Fund for Strategic Investments, Horizon 2020 and cohesion policy allow the combination of funds in a single project. The regulations for Horizon 2020 and cohesion policy have aligned rules for simplified cost options and have increased the

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33 Instruments promoting cooperation across regional and national borders include: Joint Technology and Programming Initiatives and contractual Public Private Partnerships under the Horizon 2020, European Institute of Innovation and Technology, Knowledge and Innovation Communities, Knowledge and Sector Skills Alliances under Erasmus+, European Strategic Cluster Partnerships, Enterprise Europe Network, European Innovation Partnerships, Start Up Regions Network, Interreg.

34 Through 'upstream actions' to prepare stakeholders to participate in Horizon 2020, and 'downstream actions' to exploit and diffuse research and innovation results, developed under Horizon 2020 and previous programmes, Annex 1 to the Common Provisions Regulation (EU) No1303/2013.

possibility to spend more cohesion policy funding outside programme areas. The Commission has also published guidelines on combining the European Fund for Strategic Investments with cohesion policy funds.

The Commission has launched a number of initiatives (such as the Stairway to Excellence and the Seal of Excellence initiative) and produced guidance to encourage and facilitate synergies between different policy instruments. It has proposed a further simplification to facilitate the currently complex combination of funding from Horizon 2020 and cohesion policy.

**The Stairway to Excellence pilot project** helps close the innovation gap between the EU regions by supporting the implementation of smart specialisation strategies by developing and exploiting the complementarities between cohesion policy, Horizon 2020 and other EU funding programmes. The **Seal of Excellence initiative** helps SMEs to find alternative funding under the European Regional Development Fund and other sources for their innovation project ideas that were evaluated as excellent under Horizon 2020 but could not be supported due to limited resources.

Commission investment envoys can provide on the ground in the Member States support to public authorities and promoters in order to create stable pipelines of projects maximising the impact of the EU funds and drawing on the expertise of the European Investment Advisory Hub.

Evidence suggests that there has been improvement in coordination at the level of the cohesion policy programmes in the strategic management of research and innovation investment. However, at project level there is still a need for a greater clarity of roles, responsibilities and coordination, notably in relation to eligibility rules, procurement and state aid and with transnational projects.

- The Commission will continue to work in close dialogue with national and regional authorities to address the complexities in the combined use of different EU instruments in order to maximise investment in projects targeting research and innovation, competitiveness and productivity. With the help of the investment envoys on the ground and through the European Investment Advisory Hub, the Commission will offer assistance to maximise the mobilisation of private sector capital.

- The Commission will work in close cooperation with national and regional authorities also to facilitate and clarify the combined use of different funds in relation to state aid rules, public procurement and interregional cooperation.

- The Commission will look into possibilities of providing assistance on the ground by means of dedicated investment envoys. These envoys would act as a first point of

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39 [http://www.eib.org/eiah/index.htm](http://www.eib.org/eiah/index.htm)
contact for local stakeholders to maximise the impact of different EU funds. They would act upon demand and would direct the specific requests to the right facilities within the European Investment Advisory Hub to further encourage the combination of different funds.

- The Commission will provide stakeholders with a comprehensive mapping of support actors and state-of-the-art facilities in regional ecosystems to foster cross-regional partnering and access to competences.
- The Commission will continue to work with European Parliament and Council in the context of the ongoing discussions on the Omnibus Regulation\textsuperscript{42} to further facilitate transnational investments, such as the implementation of operations outside the programme area.

Member States are encouraged to work closely with stakeholders to make full use of the simplification possibilities that are currently available. Managing authorities for the European Structural and Investment Funds in the Member States should organise dedicated simplified calls for projects which have received the Seal of Excellence based on the good practice developed in the Czech Republic, Italy, Poland and Spain.

4. CONCLUSIONS

The EU, its Member States and regions are all facing challenges in the context of globalisation. This new world brings opportunities that Europe must seize while remaining committed to a fair distribution of the resulting benefits. It is essential to exploit the full potential of innovation to modernise the economy, in order to support the EU social model and the quality of life of European citizens. Europe needs to empower, defend and protect its citizens, its regions and its industry to create the prosperity and jobs that citizens of Europe expect. To achieve this, it is necessary that all EU policies and instruments work together in a coordinated manner, across governance levels, so as to move towards a resilient, inclusive and sustainable growth at territorial level.

In this context, smart specialisation strategies are already making a difference by improving the quality of cohesion policy investment in innovation and have thus become an integral part of Europe's approach to innovation. It is also making a difference in the way European regions are designing and implementing their innovation policies and involving businesses.

The experience acquired so far with the current cohesion policy programmes, together with the actions and pilot projects put forward in this Communication, will provide a useful input in preparing the next Multiannual Financial Framework. To this end, the Commission will monitor progress in implementing these actions. Smart specialisation represents a new way of working together, which ensures stronger local and regional participation in decision making, and whose potential can be scaled-up for the benefit of the EU's regions and the EU as a whole. This approach may be replicated and used in a broader context as a useful tool to implement the future EU budget\textsuperscript{43} in the most effective way.

\textsuperscript{42} COM(2016) 605 final.
\textsuperscript{43} European Commission's \textit{Reflection paper the future of EU finances} - COM(2017) 358 final.